



## Diabetes (Type II) Management

Of the 15 million people in the United States currently suffering from Type II diabetes, half don't even know they have the condition. Becoming aware that you have diabetes is the first step in controlling your health and preventing the many serious complications that can result from poor management of Type II diabetes.

# What is Type II diabetes?

When we eat, the body breaks down and converts the carbohydrates (starches and sugars) in our food into glucose, which is then converted to energy or stored as fat for later use. You have likely heard your physician talk about blood-sugar levels when discussing diabetes. This refers to the amount of glucose in the blood.

Normally, insulin facilitates the conversion of glucose by the body's cells. With Type II diabetes (also known as adult-onset, or non-insulin dependent diabetes), the body's cells are no longer able to use the insulin, so higher than normal levels of sugar (glucose) remain in the blood (called hyperglycemia).

This excess glucose in the blood can damage organs and tissue, leading over time to the many serious complications associated with diabetes.

Type II diabetes differs from Type I diabetes (juvenile-onset or insulin-dependent diabetes), where the pancreas produces little or no insulin at all. Type II diabetes usually develops after the age of forty. Symptoms, which tend to appear gradually, include fatigue, extreme thirst and hunger, frequent urination, blurred vision, repeated infections and slow wound healing. A number of risk factors have been linked to development of the disease, such as obesity, smoking, family history, age and ethnicity.

#### **Control**

The main goal in controlling diabetes is to keep glucose levels as near normal as possible. Several things can be done to help keep blood sugar under control:

- Diet. A diet that is low in fat, includes a moderate amount of protein and is high in complex carbohydrates (fruits, vegetable and fiber) can make all the difference in controlling the blood glucose level. Concentrated sweets such as juice or candy bars should be avoided. Since each person has different needs, a dietician can help plan a diet based your activity levels and lifestyle.
- Weight Loss. Since obesity is one of the leading causes of Type II diabetes, some patients will benefit greatly by losing weight. Even a 10 percent reduction in body weight can bring diabetes under control. A physician and dietician can help create a healthy and attainable weight loss program.
- Exercise. Exercise will not only help maintain a healthy body weight and raise energy levels, it will also increase the body's sensitivity to insulin. This is important; because increased sensitivity will help keep blood glucose levels down. By exercising regularly, cholesterol and blood pressure can also be lowered, thereby reducing the risk for heart disease. Again, anyone with diabetes should consult with a physician to develop a proper exercise program.
- Monitoring. Regular monitoring of blood glucose levels provides a benchmark of how well the diabetes is being controlled. The doctor will probably advise testing blood glucose levels once or twice a day and keeping a diary of the results for review. Patients can test blood glucose by placing a small drop of blood (usually from a finger stick) on a test strip, which is then placed in a meter that gives a reading. Healthy levels are usually between 100-120. It is extremely important to test as often as the doctor instructs. Without these numbers, your doctor cannot monitor the diabetes to decide if additional treatment is needed.
- Medication. For some Type II diabetics, diet and exercise are not enough to keep blood glucose at a safe level. Your doctor may prescribe medications to increase a diabetic's sensitivity to glucose. When on medication, it is especially important to monitor and record glucose levels in order to judge how well the medication is working. Taking medication for diabetes does not mean patients can stop the rest of the treatment plan; diet and exercise are still just as important. To learn more about drugs for diabetes, visit the American Diabetes Association website (www.diabetes.org). The site also has a section for newly diagnosed individuals and tips on cooking and exercise. A small percentage of diabetics are unable to control their disease through all of the above methods. If this occurs, a diabetic must supplement his or her treatment with insulin injections. If you require insulin injections, your doctor will carefully review the procedure with you to ensure you are comfortable administering it yourself. Most diabetics who require insulin take two injections a day, generally before breakfast and dinner.

## Hypoglycemia

Even though one of the main treatment goals is to lower blood glucose, it can go too low (called hypoglycemia). This may happen when you become stressed, exercises strenuously, or skips a meal or snack. If blood glucose levels are too low, you may begin

to feel shaky, dizzy or confused. If this happens, test blood glucose levels if you can. If glucose is indeed low, eating or drinking something with about 15 grams of sugar will help. Half of a glass of orange juice works well, or try a few spoons of table sugar. Soda or a candy bar will do in a pinch, too. If you can't test your blood glucose but feel a problem coming on, you should eat anyway, just to be safe. Keep small supplies of juice or snacks containing sugar readily available (such as in your desk drawer, your purse or the glove compartment of your car) in case blood glucose levels become too low. Not eating when glucose levels are low can lead to unconsciousness and eventually coma, so take the symptoms of low glucose levels seriously and act promptly. Also, let friends and family know what to do when your levels are low, in case you become too confused to help yourself.

## Complication

If a person with diabetes does not follow treatment guidelines, he or she runs a high risk of serious health complications. These result from the uncontrolled high level of glucose in the blood, which over time damages organs and tissue. Complications of Type II diabetes can include the following:

- Eye disease (diabetic retinopathy). This occurs when blood vessels in the eye begin to leak, putting pressure on the retina and deteriorating vision. If left untreated, this can lead to blindness. Generally, patients do not notice symptoms until it is too late, so diabetics should get their eyes checked once a year.
- Nerve damage (diabetic neuropathy). Damaged nerves can lead to loss of feeling, a tingling or burning sensation, sexual dysfunction, and weakened muscles.
- Kidney damage (diabetic nephropathy). Diabetes can cause the kidneys' filtering
  function to diminish as small blood vessels become damaged. As a result, toxic
  impurities can build up in the blood, and proteins spill over into the urine. Since
  symptoms from kidney dysfunction only appear once damage is severe, an annual
  physical that includes urine testing is strongly recommended.
- Extremities (circulatory problems). In addition to nerve damage, poorly controlled diabetes also results in loss of circulation. This combination can lead to severe leg and foot problems. The numbness associated with nerve damage makes it difficult for a diabetic to know his or her foot has been cut or injured. In addition, poor circulation makes healing a difficult and lengthy process. People generally don't pay very much attention to their feet, so a problem may be very advanced by the time it is noticed. This is why infection and gangrene linked with diabetes make up over 90 percent of non-traumatic, lower leg amputations. Not only should diabetics never go barefoot, they should examine their feet every day, clean and bandage any wounds found and notify a physician immediately if any are not healing properly.

While the above complications may seem frightening and overwhelming, much can be done to prevent them. This means taking charge with annual medical checkups, testing and recording of blood glucose levels and following the proper diet and exercise.

Following these steps will not only improve physical well-being, but will also give peace of mind that everything possible has been done to minimize future complications.

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